Assembling credibility: knowledge, method and critique in times of 'post-truth'

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Pre-proof version (forthcoming in Security Dialogue)

Abstract

Critical approaches in security studies have been increasingly turning to methods and standards internal to knowledge practice to validate their knowledge claims. This quest for scientific standards now also operates against the background of debates on post-truth, which raise pressing and perplexing questions for critical lines of thought. We propose a different approach by conceptualising validity as practices of assembling credibility in which the transversal formation and circulation of credits and credentials combine with disputes over credence and credulity. This conceptualisation of the validity of (critical) security knowledge shifts the focus from epistemic and methodological standards to transepistemic practices and relations. It allows us to mediate validity critically as a socio-political rather than strictly scientific accomplishment. Developing such an understanding of validity makes it possible for critical security studies and International Relations to displace epistemic disputes about 'post-truth' with transversal practices of knowledge creation, circulation and accreditation.

Introduction

'What are the grounds for knowledge claims?' asked Sandra Harding in her seminal work on standpoint theory and 'strong objectivity' (Harding, 1992). Revisiting questions about the validity of knowledge claims appears urgent today when the Oxford English Dictionary has consecrated 'post-truth' as the new word of 2016.[1] Declarations of an age of post-truth abound across the political spectrum. Echoes of post-truth debates have been felt in critical security studies and International Relations (IR) as well as the social science more widely, including Science and Technology Studies (STS) (e.g. Berling & Bueger, 2017; Fuller, 2016a; Fuller, 2017; Jasanoff & Simmet, 2017; Sismondo, 2017). Diagnoses of 'how we got here' rushed to pinpoint the role of social media, Facebook 'echo chambers', the decline of the print press which had long sustained our 'imagined communities', but also the role of poststructuralist approaches, the so-called 'postmodern intellectuals' and STS ideas of the 'universalization of symmetry' (Fuller, 2016a; Fuller, 2017). Poststructuralist, feminist and postcolonial approaches have dismantled the universality of truth and have exposed the power relations that underpin different regimes of truth. Understanding knowledge as something that is socially and politically enacted – i.e. acted into being as well as acted upon – rather than methodologically derived from or corroborated by empirical worlds has put them back in the dock for having done the intellectual groundwork for the current rise of post-truth. These accusations are not new and not limited to political fluctuations. From its inception, anti-foundational work that did not primarily ground knowledge in epistemological standards was challenged on grounds

of undermining the possibilities of scientific knowledge in IR (Keohane, 1988).

Recent engagements with questions of method and methodology in critical security studies have also rearticulated the question of validity, in particular how to make valid empirical statements within critical security studies. These attempts to formulate standards of validity have returned largely to epistemological debates, focused on the similarities or differences between qualitative and quantitative methods. They have sought to define standards that are internal to knowledge, rather than social or historical. In particular, standards of rigour, systematicity, objectivity, and consistency have been invoked, contested and rearticulated (e.g. Hansen, 2006; Jackson, 2011; Klotz & Lynch, 2007; Salter & Mutlu, 2012).

Although at first sight current post-truth debates and methodology questions within critical security studies do not seem to have much in common, they engage similar stakes concerning the status and validity of critical knowledge. Moreover, in the context of claims about 'post-truth' and accusations directed at particular kinds of critical work, revisiting the claims to validity in critical security studies and IR will become politically intense (again). By taking the quest for validity in critical security studies seriously, we can also reformulate the debates around 'post-truth'. Drawing on Science and Technologies Studies (STS), we want to reposition debates about standards of validity in critical security studies and IR by placing them in a line of thought that attends to the co-constitution of knowledge and power, science and society.

For example, critical approaches in security and IR have drawn attention to the mechanisms of governing through risk and their pernicious political effects by deploying a series of analytical tools such as pre-emption, exceptionalism, (racializing) biopolitics, or 'social sorting'. Yet, what has been missing in these critical analyses have been the struggles over the validity of the statistical production of risk versus big data analytics and their mobilisation for the purposes of counter-terrorism. This cannot be simply an epistemological debate about the standards of validity of statistics or big data and their methodological limitations. It demands looking at how statistics played a key role in making the nation-state and in the conduct of national social policies since the 17th century. It also demands exploring how current economic and social changes are related to the increasing use of big data analytics in governance practices, from local governments and states to the UN Global Pulse initiative to accelerate the adoption of big data for humanitarian action. The disputes are taking place at least as much in different policy circles, private markets, judicial sites defining what is acceptable evidence in court cases, media, and so on as in the scientific community of statisticians, computer scientists, psychologists and political scientists. This brief example shows that acquiring knowledge validating power derives from gathering and sustaining credibility in and across multiple sites rather than from epistemologically grounding it in scholarly practice as such.

Therefore, rather than either developing or jettisoning epistemological and methodological standards of validity, we propose to understand the validation of critical knowledge production through *the assembling of credibility*. In our approach, credibility is not a new standard. Assembling credibility captures the practices of making, circulating and crediting of knowledge, which are neither internal nor external, but transversal to social sites. Assembling credibility thus draws attention to the impossibility of a strict separation of internal conditions of validity, and external social and political factors.[2] It is transversal in that it

understands conditions and practices of validation to depend on connections that work across multiple fields – e.g. the scientific field, the legal field, the bureaucratic field, and the diplomatic field in cases such as inquiries into crimes against humanity and the use of big data analytics in counter-terrorism.

To develop our argument about the importance of credibility to critical security studies we proceed in three stages. The first section gleans a series of recent moves in critical work on (in)security to claim epistemological and methodological validity to argue that it is indicative of a desire for scientificity. Thus, recent critical scholarship is set at odds with the poststructuralist and feminist debates of the 1980s and 1990s, which worked through the implications of taking knowledge as socially and politically enacted. In the second section, we revisit the debate between Bourdieu and STS to develop an alternative conception of validity that questions the existence of a strict boundary between scientific and other areas of practice. This leads us to a conception of assembling credibility that operates through the formation and circulation of credits and credentials, and negotiations and disputes over credence and credulity in transepistemic arenas.[3] Finally, we caution against organising debates in terms of 'post-truth' and propose assembling credibility as a critical mode of engaging questions of the validity of knowledge.

Will to being scientific, loss of criticality?

How does critical work about (in)security and conflict validate the knowledge produced? We show that three kinds of practices have informed critical knowledge production: i) existing scientific standards, ii) a 'minor' version of scientificity, and iii) the rejection of standards. These three practices might at first sight appear counter-intuitive, not least because critical work, particularly work inspired by poststructuralist, postcolonial and feminist approaches, would entail the rejection of theoretical, epistemological and methodological standards. Yet, more recently, critical work that has challenged theoretical ideas and disrupted dominant understandings of (in)security has nonetheless invoked methodological standards to validate its knowledge. We offer a few brief illustrations of these practices of validation in critical approaches to (in)security.

Firstly, validity is produced through implicitly or explicitly mobilising the standards of scientific method. Thus, sections on methodology across critical IR include key standards – though not all – of neutrality, objectivity, rigour and systematicity. For instance, in her seminal work on peacebuilding in Congo, Séverine Autesserre shows how a dominant peacekeeping culture neglects local conflicts and in so doing reproduces the conditions of its own failure. Autesserre's work is situated in a critical peacebuilding literature, where ethnographic methods and fieldwork have become increasingly associated with critical work on local practices, hybridity and resistance.[4] Autesserre constructs the validation of critical research around the methodology of fieldwork. In a later article dedicated to 'going micro' in peacebuilding research, she notes the gap between interpretive and ethnographic research on the one hand and mainstream IR on the other:

> All of the existing research on this topic is ethnographic and qualitative. […] it presents little statistical evidence linking daily practice to peacebuilding outcomes. The work

> also tends to be very site specific. Thus, for many, it can appear anecdotal, overly personal or not rigorous enough, and lacking generalizability. All of the authors also come from anthropological or interpretive traditions, making it more difficult for the findings to travel to mainstream positivist research in political science and international relations (Autesserre, 2014: 495).

Yet, Autesserre carefully guards against such accusations of lack of rigour and generalisability, as she establishes the systematicity and rigour of research:

> Between 2001 and 2007, I carried out ethnography in various parts of the Congo. I spent fifteen months in the most violent provinces and two months in the Congolese capital of Kinshasa. There, and in France, Belgium, and the United States, I conducted more than 330 interviews with international peacebuilders and Congolese stakeholders. I also analyzed numerous documents, including policy papers, agency memos, confidential reports, and news articles (Autesserre, 2010: 12).

Although objectivity is not mentioned explicitly, ethnographic fieldwork is distanced from the singular case and potential accusations of anecdotal knowledge through an implicit 'trust in numbers' (Porter, 1996). While ethnographic work has a particular 'time order' of months that allow for in-depth insights, this is not usually translated in the quantification of interviews in ethnographic work.[5] In a detailed ethnographic work on the production of illegality, Ruben Andersson similarly introduces a reference to numbers when noting that the research entailed 'several hundred interviews, extensive participant observation conduction in a range of settings throughout 2010 and early 2011, and numerous visits to border agencies and other key groups working on migration along the Euro-African border' (Andersson, 2014). Validation through standards of scientificity is not only implicitly established in critical work on (in)security. Lene Hansen's seminal development of poststructuralist discourse analysis for critical security studies explicitly claims rigour as a standard for knowledge production: 'The goal of poststructuralism is therefore to study in an *empirically rigorous and structured manner* the ways in which facts are formed and how they impact on foreign policy debates' (2006: 28).

A second practice challenges the dominant standards of validity and proposes alternative standards more adequate to qualitative research and different epistemological frameworks. Dvora Yanow has been trenchant in her assessment that '[i]nterpretive research is often held to evidentiary standards—criteria, such as rigor or objectivity, that concern the character of material brought in support of a claim—that it cannot possibly achieve' (Yanow, 2006: 97). In more recent collaborative work, Schwartz-Shea and Yanow have argued that positivist standards of validity, reliability, replicability, rigour and objectivity are inapplicable to nonpositivist research (2013: 113). In strict opposition to the standards of positivist research, they develop a set of standards for interpretive research: trustworthiness, systematicity, reflexivity, transparency, and positionality.

This move to develop alternative standards has increasingly characterised work on qualitative methods across critical security studies. Cai Wilkinson has drawn attention to the need to adopt different criteria for interpretive methods: credibility, transferability, dependability, and confirmability (Wilkinson, 2011: 102). These different criteria allow

interpretivist research to establish trustworthiness or 'methodological soundness' (Wilkinson, 2011: 102). Mark Salter and Can Mutlu raise a similar question of appropriate standards: 'Within interpretivist frameworks, what counts as sufficiency, coherence, or criticality?' (Salter & Mutlu, 2012). Although rigour is still important for their argument, they suggest that other criteria might be important for critical knowledge production. Their question makes clear the need to engage with standards of validity of particular methods and knowledge claims. In a recent intervention, Anna Leander (2015) has argued that ethnographic research in critical security studies can be understood through 'strong objectivity' along the lines proposed by Harding's standpoint feminist methodology and epistemology. Harding's criticism of objectivity in positivist science focuses on the exclusionary effects that dominant standards have had. What distinguishes her programme from invocations of alternative standards in critical IR is that Harding (2015a; 2015b) sees 'strong objectivity' to produce 'science for social movements'.[6]

At the same time, developing alternative standards for interpretive research also creates difficulties, as particular standards are messier than the boundary between positivist and non-positivist research, qualitative and quantitative methods indicates. Interestingly, for Schwartz-Shea and Yanow, the list of standards is differently composed at different times, with rigour added to positivist research, and systematicity to nonpositivist work (Schwartz-Shea & Yanow, 2013: 13). Ultimately, what underpins the search for differentiated standards of validity is an understanding of scientific practice as distinct from other social practices.

For us, what is problematic in this image of standards is not the exact standard chosen: whether objectivity, rigour, systematicity, trustworthiness or credibility. Rather, it is that the will to develop a 'minor science' of interpretive social science or critical IR reproduces standards as fixed and, in a sense, ahistorical. These ahistorical standards help draw the line between science and other social practices. While this type of move would seem to provide succour against accusations of 'post-truth' by clarifying the standards for knowledge production, it would also run the risk of pre-empting the production of critical knowledge that does not abide by these standards. Take for instance, Elizabeth Dauphinee's genre-disrupting book, *The Politics of Exile.* It is based on the story of one man, Stojan Sokolovic. It leads Naeem Inayatullah to ask in the preface to the book: why is this not a novel? If not a novel, what is it? What is it that leads to the destruction of knowledge that Dauphinee meticulously undertakes in a frenzy of shredding:

> I emptied whole filing cabinets on Bosnia. When the shredding of my own book manuscript was complete, I began to shred all the articles that other people had written on Bosnia. I shredded David Campbell, David Chandler, Florian Bieber, Noel Malcolm, David Rieff, Thomas Weiss, Ronnie Lipschutz, Susan Woodward. I shredded Serbs and Muslims, I shredded Germans and Americans and Britons. I shredded Canadians. I shredded the Bosnian Muslim Serb who had asked to be cut in half at that long ago conference, even though I had liked his article (Dauphinee, 2013: 177).

Dauphinee's book is not simply about disrupting genre, but also about disrupting the validation of knowledge through the detailed interaction with one person, which challenges standards of ethnographic fieldwork, systematicity or rigour.

By validating critical knowledge by relying on existing scientific standards or by developing alternative, 'minor scientific' standards, critical approaches risk being shoehorned into institutionalised categories and distinctions that hollow out (a) the experimental nature of critical knowledge and (b) the historicity and socio-political conditions of knowledge production. It is perhaps such considerations that have led to the third practice of rejecting standards in critical feminist and poststructuralist work in IR in the 1980s and 1990s. 'Method' and 'methodology' were not that often used, exactly because they carried specific demands of scientific validity that would destroy the innovative insights these approaches were developing. A seminal volume for poststructuralist approaches to IR, *Intertextual/International Relations,* (Der Derian, 1989) is saturated by a wide variety of methods of analysing texts, while the book title itself carries intimations of intertextual methods. The 'poststructural practices' used to analyse how 'international relations is constituted in and through the discourses and texts of world politics' cannot but imply methods (Der Derian & Shapiro, 1989: ix). In some feminist work, methods are deployed in the production of critical feminist knowledge without being named as such. Cynthia Enloe's call for feminist curiosity, for instance, was usually seen as expressing a particular kind of feminism. When reading her work more closely, however, it becomes quickly clear that feminist curiosity signifies a quite specific way of researching and writing that is developed to challenge taken for granted knowledge about international politics (Aradau & Huysmans, 2014; Enloe, 2004).[7] Yet, there is no invocation of standards of validity, no mention of objectivity, validity, rigour and so on. This is not surprising given the need to distance feminist knowledge production from the 'scientific pursuit "free" of the burdens of identity and space' (Enloe, 2004: 22).

For these poststructuralist and feminist scholars, critical knowledge production aimed to intervene politically by challenging taken-for-granted knowledge, including methods, conventions of doing research, and standards for evaluating knowledge claims. Often, critical knowledge would not be available without methodological experiments, which were formulated against existing standards of what counted as proper scientific work. For instance, feminist scholars 'have had to be particularly creative with the tools of a discipline not intended for the questions feminists ask, and notably eclectic in drawing out tools from other disciplines and sites' (Ackerly, Stern & True, 2006: 4).

The current quest for method in critical security studies and IR offers a renewed impetus to revisit tensions in the 'validation' of knowledge claims. Discussions of method are often presented as a response emerging from the need to validate interpretive and critical approaches. Yet, an empirical and methodological validation deficit was a key criticism that realist and liberal scholars levelled at the poststructuralist and feminist approaches[8]. Embracing internal standards of validity, be those dominant or alternative ones, risks losing the experimental imperative needed to produce boundary-traversing and rupturing knowledge. The focus on established scientific standards also risks de-historicising and de-politicising methods. It tends to fix standards, while devoting little analytical attention to the historical and contemporary power struggles and visions of political order that have been invested in them. This is a problematic move for critical knowledge, a 'normalisation' of critique that is realised through a methodological search for clear boundaries and standards of scientific knowledge.

These debates are particularly important for how critical security studies addresses the validation of its own knowledge production. They are also particularly relevant today, as

responses to the 'post-truth' accusations have fallen back upon similar positions as the ones we have outlined in relation to validity. Critical knowledge production has tended to reclaim existing scientific standards and the role of science in society, as if knowledge production had ever been incontestable and certain. It is in this context of reclaiming ahistorical standards of science that we can understand Steven Fuller's quip that science has always been 'post-truth' (Fuller, 2016b). For example, on the right, knowledge claims have been articulated in the form of alternative and multiple claims – hence the widespread use of 'alternative' truth, facts or reality by Trump and his supporters. In the face of this repositioning, we argue that critical knowledge cannot simply assert distinct standards of validity, but needs to retain the centrality of researching contestations and disputes over the enactment of knowledge. In conditions in which the authority of the scientific community has been (again) challenged, the question of how to understand the validation of knowledge while retaining how knowledge is formed in and through contestations and disputes across multiple fields of practice, scientific and non-scientific, turns into a pressing and perplexing question for critical lines of thought. In the following section, we start developing an answer to this challenge by introducing an approach to the validation of knowledge claims that focuses on assembling credibility, as an alternative to practices in critical studies of (in)security that have focused on 'major' or 'minor' standards of scientificity.

Assembling credibility: credits and credentials

As the previous section has indicated, credibility has been proposed as an alternative standard for qualitative research in IR and beyond. Rather than an alternative standard, we use 'credibility' to move away from searching for methodological fixes and to continue embedding the question of validation within critical lines of thought that complicate it in a double way. They do so, firstly, by questioning the existence of a strict boundary between scientific practice and other areas of practice. In doing so, we do not just challenge the purity of science, but foreground the circulation of knowledge across social sites. Secondly, they question the focus on validation through standards of scientific method by foregrounding credible knowledge as a socio-political accomplishment. Credibility is particularly helpful for understanding this messy work of assembling as it carries etymological connections with credit, credence, credentials, and credulity. While sociological approaches to science as practice have initially focused on 'credits' and the political economy of (ac)creditation, credibility opens up a terrain of knowledge production that is simultaneously a terrain of the circulation of credits across social sites, the differential production of credentials and disputes over credence and credulity. We will turn to credence and credulity in the next section. In this section, we recast the debate between internal and external factors in the validation of scientific knowledge by proposing to analyse the assembling of credibility.

Credit models of science

Credit and credibility have been at the heart of the uneasy relation between Pierre Bourdieu's analysis of scientific fields and the STS analysis of scientific practices, in particular by Bruno Latour, Karin Knorr-Cetina and Steven Shapin. Although these debates have inspired much of

the recent critical work on 'security practices' in IR (e.g. Côté-Boucher, Infantino & Salter, 2014; Davidshofer, Jeandesboz & Ragazzi, 2016; Schouten, 2014), the controversy between Bourdieu's sociology of practice and Science and Technology Studies (STS) has received much less attention (for an exception see Berling & Bueger, 2015). We propose to revisit this debate in order to develop validity as assembling credibility that works across scientific and non-scientific sites and to propose a particular understanding of credit circulation as taking place in transepistemic arenas, following Knorr-Cetina.

Credit models of science have played a major role in shifting the validation question from epistemological concerns with the correspondence between reality and knowledge to the acquiring, circulation, and distribution of credits. Credit refers in the first instance to rewards. The value of knowledge depends here on the level of credits scientists gather in the form of awards, high citations, international invitations and so on. They do not just translate into material rewards but also into symbolic capital – or credentials – that depend on recognition by other scientists. Mostly associated with the work of Pierre Bourdieu, science is conceptualised as 'a field of forces whose structure is defined by the continuous distribution of the specific capitals possessed, at the given moment, by various agents or institutions operative in the scientific field' (Bourdieu, 2004: 33). Unlike Merton, with whom Bourdieu shares the understanding that scientific authority depends on the autonomy of science, this credit model does not ground validation in the establishment of scientific norms and an ethos of science, but in the differential accumulation of economic and symbolic credits. Science is then not a community, as in Merton's understanding, but a field of competition defined by the distribution and acquisition of material and symbolic credit (Kale-Lostuvali, 2016: 276).

However, this is not all there is to credit. In their critical engagement with Bourdieu, Latour and Woolgar highlight its importance but strongly argue that this limited understanding of credit draws attention to past actions, group structure and issues of priorities and cannot account for the practice of researching as such (Latour & Woolgar, 1979: 193). To understand the value of scientific practice, one needs to take into account the everyday practices of scientists doing science. This includes the substance of scientific production (i.e. doing experiments, gathering data, writing, reading, presenting) and external factors such as money and institutions. To that purpose, Latour and Woolgar replace the language of credit and credentials with the broader concept of credibility, which 'can be applied to scientists' investment strategies, to epistemological theories, to the scientific reward system, and to scientific education' (Latour & Woolgar, 1979: 198).

Bourdieu's understanding of the scientific field is not oblivious to these broader issues of credibility (Albert & Kleinman, 2011: 269; Bourdieu, 2004). He problematises the distinction between 'internal' and 'external' analysis by understanding the autonomy of the scientific field as a historical and social accomplishment rather than an epistemological given. What counts for Bourdieu is to avoid the blackmail of 'internal' versus 'external' factors, to 'acknowledge that science is a thoroughly historical social fact without concluding that its productions are relative to the historical and social conditions of their emergence' (Bourdieu, 2004: 69-70). Developments outside the scientific field impact on the practices and the distribution of credits and credentials in the field. This is particularly pertinent for a field such as security studies, where questions and agendas are often formulated in relation to governmental goals, priorities and funding. The role of money and institutions external to the

field in sustaining and challenging the scientific enterprise are central to the economic model of credit circulation, but also define a problem for scientific validation in Bourdieu's conception. For Bourdieu, scientific capital is 'primarily, sometimes exclusively, valid within the limits of the field' (2004: 55) so that the authority of scientific knowledge depends first and foremost on retaining the autonomy of the scientific field. Such autonomy is what the focus on standards and more broadly the interest in method(ology) seeks to establish in critical approaches to (in)security. The importance of this autonomy is what Dauphinee shreds when she shreds her previous scientific work.

Boundary-work versus transversality

In so far as credibility depends on autonomy, the impact of external factors questions that autonomy and the credibility of knowledge. This is a familiar problem seen at play, for example, when scientific results are discredited on grounds of the partisan, cultural or economic interests of the funder. The important point for us is that in this understanding of the connection between internal and external credits and the development of credentials, the circulation of credits is always across a clear boundary that marks the scientific field off as an autonomous practice from other fields. In this understanding, one can see how distinct and rigorous methodologies are mobilised as symbolic capital to assert the autonomy of the scientific field. Method-focused arguments asserting the distinctness of scientific knowledge do boundary-work (Gieryn, 1999). Although in its Bourdieusian understanding the validation of scientific knowledge is a social accomplishment, the credibility of science is also dependent on boundary-work that clearly distinguishes between scientific knowledge production and its consumption by non-scientists is then central for scientific credibility.[9]

However, there is something problematic about this understanding of circulation of credit and credentials in the making of credibility. If maintaining strict boundaries between the scientific and the non-scientific remains the fundamental condition for scientific credibility, then any knowledge claim, critical or otherwise, seeking credibility needs to assert scientific autonomy. This reduces the possibility to fully explore how credibility is constituted in practices that work transversally across various sites. Knorr-Cetina has been critical of what she called the 'quasi-economic model of science' in Bourdieu's work (Knorr-Cetina, 1982; see alsoPels, 1997). Critical sociologists can look from the outside onto the circulation of credit between distinct fields and the development and distribution of symbolic capital in the form of credentials. However, in the end they will themselves need to enact a strong boundary between their knowledge and non-scientific knowledges to underwrite their own credibility by the autonomy of science.

A closer reading of the debates between Bourdieu and STS shows that their disagreements and contestations are exactly over how the boundaries of science and non-science are drawn and what 'credit' and 'credibility' entail. The dispute between Bourdieu and Latour as formulated in the former's *Science of science* is not so much about whether there are boundaries, but whether the boundaries need to be understood in relation to science as a field of practice or the laboratory as a 'small, closed and separate universe' (Bourdieu, 2004: 32). The understanding of what counts as 'credit' becomes key in this drawing of boundaries. For Latour and Woolgar, struggles and alliances over 'credit' increasingly rely upon a 'war model'

of science and knowledge production fought in the laboratory (Knorr-Cetina, 1985). For Bourdieu, the quasi-economic model of scientific capital as a result of recognition granted by competitors locates boundaries around the scientific field rather than laboratory. Yet, disputes over boundaries are key to both their understandings of science. When Knorr-Cetina (1981: 36) argues that we need to place the laboratory within 'a field of social relationships into which the scientists insert themselves', she ultimately echoes Bourdieu's critique of laboratory studies. Where she departs from Bourdieu is in placing the emphasis on indeterminate relations in the contextualisation of the laboratory rather than the structuring relations of the field, as we will show shortly.

Ultimately, in our reading, the dispute over how to draw the boundaries of scientific knowledge production is a dispute over how to provide a sociological analysis of the circulation of credits and credentials across sites of practice, while retaining a distinctness to scientific practice. Steven Shapin (1994) has described in great detail the sites and encounters through which experimental science established itself as credible knowledge in 17th-century England. Assembling credibility is thus a transversal practice, where a multitude of credits and credentials are mobilised in indeterminate relations. Shapin shows how, in the 17th century, 'being a gentleman' was a key part of credibility conveyed onto experiments:

> The showing of experimental phenomena in public spaces to a relevant public of gentlemen witnesses was an obligatory move in that setting [in which science was developed in private rooms] for the construction of reliable knowledge. What underwrote assent to knowledge claims was the word of a gentleman, the conventions regulating access to a gentleman's house, and the social relations within it (Shapin, 2010: 87).[10]

Relating credibility to the gendered social conventions of being 'a gentleman' suggests that credibility is created from resources across various fields and by circulating acquired credit between them. We suggested in the introduction that methods of big data analytics have rapidly gained credibility in governmental, business and security agencies, despite statisticians often challenging the credibility of these methods.[11] This circulation of big data analytics and its credibility has important implications for research in critical security studies, as it shapes knowledge claims and disputes about terrorism, migration, or humanitarianism. Similarly, forensic methods ranging from finger printing to DNA traces have gained rapidly in credit in scientific fields, policing, war fighting, judicial procedures on war crimes and popular imagination (Weizman, 2010).

What is important for the credibility of these new modes of knowledge is their public staging across different social sites. As Shapin and other STS scholars have highlighted, credibility has a 'public' dimension in that it is established in relation to a variety of publics and not just other scientists. There are many examples one could give of this public staging of methods. DNA research and applications and neuroscience are interesting contemporary case studies of how scientific knowledge thrives on wide public visibility and assembles credibility through its circulation across various fields, including science, news media, government, police, and popular culture. Big data's credibility can be explained through its rapid circulation and staging from data visualisation in the media to targeted advertising by Facebook, Netflix

or Amazon recommender systems. Acquiring credibility includes, but is not limited to the role of public staging to translate scientific work across scientific boundaries.

Transepistemic arenas

Knorr-Cetina has proposed the concept of transepistemic arenas to capture this more fluid, indeterminate and diffuse process whereby credit and credentials are gathered or lost in various sites. Thus, for her, knowledge work involves 'a mix of persons and arguments that do not fall naturally into a category of relationships pertaining to "science" or "the speciality", and a category of "other" affairs' (Knorr-Cetina, 1982: 117). Credibility then arises from the combined work of scientists and non-scientists, as well as from connecting technical and non-technical arguments and conventions. Although the credit of individual scientists plays an important role, credibility develops from what is transmitted between agents, scientific and non-scientific (Knorr-Cetina, 1982: 117-118). This transepistemic arena is more transversal in nature than a collection of discrete fields between which credits circulate. It also seeks to dispense with the problematic assumption that society pollutes science, which is inherent in making boundary-work the central principle of scientific credibility.

Analysing transepistemic arenas replaces the focus on boundary-work with following the transversal associations through which scientific credibility is achieved (Kale-Lostuvali, 2016: 289). By implication, transepistemic relations create greater symmetry between various knowledges and dilute the superior authority of science in truth telling and factual knowledge about the world. Such a more horizontal analysis of validity is not a blunt endorsement of actual symmetry between these actors, devices and practices, however. Different modes of credit and credentials create asymmetries and disputes over boundary drawing, but these asymmetries are transversally distributed and connected, rather than being mainly internal to distinct fields. For example, the rise of credentials of people working in the material turn in security studies, and IR more generally, is related to popular imaginations of forensic methods and scientists, the public and juridical staging of forensic evidence and so on. That does not necessarily mean that these developments in different sites nicely layer onto one another, but it does imply that to understand the credentials and credibility of the 'new materialists' in security studies, one needs to understand the social process of credit gaining through forensic methods and discourses across a range of sites.

Therefore, it is not sufficient to look at the accumulation and redistribution of credits with critical security studies. Such an understanding also draws attention to what is at stake beyond 'truth seeking' in debates about materiality. For example, positioning new materialism as a challenge to the linguistic turn in security studies and IR more generally reads at first sight as a classical move of gaining credit through a discursive, methodological and institutional strategy of distinction. However, this move is not dissimilar from debates conducted about the validity of material evidence versus witnessing in areas such as establishing war crimes and crimes against humanity, asylum credibility, evidencing of genocides, and so on (Weizman, 2012; Weizman, 2017: 13-18). Training students in 'the material turn,' institutionalising 'new materialism' in critical security studies and circulating 'new materialist' expertise from critical security studies to other sites thus depends on and shapes transepistemic developments and disputes around the value of narrative knowledges and witnessing.[12] What we argue for is not

the banal understanding that developments in security studies relate to what happens in the world of security practices. Rather, we seek to make a more specific argument that the validation of knowledge understood as assembling credibility takes place across multiple sites and that this process constitutes transepistemic arenas in which negotiations, disputes, decisions, and routines shape and distribute credits.

Transepistemic security studies

The foregrounding of transepistemic relations is thus not an epistemological validation move but one derived from a distinct interpretation of how knowledge is validated in practice. It emphasises that validity is a social – and therefore also historical – accomplishment that does not depend on drawing a sharp boundary between science and non-science but on a more fluid and transversal relations. This understanding of credibility links the question of knowledge validation to what is sometimes referred to as the 'democratisation' of scientific knowledge production, for example, through the availability of digital data and digital methods of online network and textual analysis (Marres, 2012). These methods render the production of knowledge, for instance of crisis or disaster management through the use of the Ushahidi online platform, a distributed process emerging through assemblages of devices, scientists, humanitarian actors and lay people. As Nicole Grove (2015) has shown, digital methods of crowd mapping sexual assault in Egypt using the Ushahidi platform and Google maps API have reshaped not just policing and state power, but the international practices of human security governance.

The assembling of credibility has important implications for how critical knowledge can be formulated in transepistemic arenas. Eyal Weizman's work shows how the credibility of critical knowledge can be assembled in transepistemic arenas. While Weizman is not based in IR or security studies, his work has addressed practices of humanitarian war and (in)security. Weizman has more recently attempted to intervene in security debates where satellite data and material evidence become increasingly important: from drone strikes to war crimes. He has argued that testimony and witnessing have been reformulated by recently 'democratised' capacities to produce technological testimonies through satellite technology and video cameras in almost real time (Weizman, 2012). Weizman himself then uses satellite data to challenge the security practices in court proceedings and through public staging (Weizman, 2017).[13]

Assembling credibility thus holds on to the sociologies of knowledge practice and validation that critics of post-truth tend to discredit. Validation is a social rather than simply epistemological practice and, in that sense, science has always been post-truth – to retake Fuller's quip. This has implications for how critical security studies engages the 'post-truth' debates. Although specifying the epistemological and methodological distinctiveness of science will continue to play a role, this needs to be placed in broader credit economies. The critical issue is not simply epistemological or methodological, but an engagement with how credibility of knowledge is assembled today – how knowledge is accredited and discredited. The approach we are proposing holds that, rather than having a go at postmodern epistemologies and calling for new epistemological or methodological foundations, it is more relevant to research how exactly the use of social media or displacements of statistics with big

data analytics in security sites are impacting on the assembling of knowledge credibility and what its consequences are.

Critique, credibility and post-truth in transepistemic arenas

The political overtones of debates on 'post-truth' in relation to climate change and the election of President Trump in the United States highlight that the quasi-economic vocabularies of credit circulation and accumulation intersect with what could be called quasi-political vocabularies of credence and credulity in the assembling of credibility. As versions of credibility through the etymology of *credo*, credulity and credence are both connected to and differentiated from credits. They allow us to attend to a slight shift in the assembling of credibility as credulity stands for unwarranted belief while credence is justified belief (Oxford English Dictionary 2017). Assembling credibility as transversal practice is thus not only about the circulation and distribution of credits and credentials, but also depends on the contingent formation of being ready to believe something as true or not. For some, these formations result from scientific 'wars', for example between climate change deniers and those defending the exceptional nature of contemporary climate change, or between defenders of statistics as tools for socio-economic and demographic policies and supporters of big data analytics. These war models of knowledge politics (Pels, 1997) tend to present conflicts over credence and credulity as decisions made and battles won through the sheer mobilisation of force or persuasion. Credence as the formation of warranted belief is then simply an outcome of political and social battles; the driving force of knowledge credibility becomes sheer will to power.

Such a warrior's reading of credulity and credence reduces the multiplicity and dispersed practices and circulations of credits and credentials that take place in transepistemic arenas to binary strategies and tactics aimed at defeating the other into epistemic submission – into incredulity. Given the dispersed nature of the credit economies, this is an awkward understanding of how credulity and credence are enacted, as Knorr-Cetina argued in her critique of Latour's analysis of Louis Pasteur and the revolution of the medical sciences at the turn of the 20th century (1985). For her, in transepistemic arenas the relations of people, things, and symbols, remain micro, multiple and dispersed, take place within existing dependencies between scientific practices and those outside of the scientific sites, and are reciprocal accomplishments. Knorr-Cetina foregrounds contingent effects of the enactment of various resources – epistemic, economic, political, cultural – which depend on luck, encounters, disputes, conflicts, and compromises. Resources remain central to her approach, but they are fragile, requiring continuous renewal. In short, credence or credulity are performative outcomes of dependencies and relations enacted in a multiplicity of practices and not a strategic victory in wars of credibility. Although this understanding of the distribution of credulity and credence does not exclude the presence of antagonistic encounters in transepistemic arenas, knowledge formation and validation are not essentially or inherently antagonistic (Knorr-Cetina, 1982: 114, 118-123). Assembling credibility also includes dependencies, compromises, agreements, reiterations, and so on.

We would argue that what we see implied in the accusation of 'post-truth' is the 'war model' of (scientific) knowledge production in which truth becomes a matter of the distribution of credence and incredulity in a battle between warring political and epistemic factions for

victory over the other. It is this 'war model' that is also implied in Trump's and the so-called 'alt-right' alternative truths. Yet, with Knorr-Cetina we suggest here that the 'war model' is precisely what is problematic and have proposed a sociological reading of assembling credibility which can combine a quasi-economic model of circulating credits with a quasi-political model of enacting credence through multiple and transversally dispersed dependencies, exchanges and disputes. This avoids falling back upon the autonomy and authority of science as the stake of doing critical knowledge, as recently expressed politically in the March for Science defending the distinct role of science in policy and society.[14] It also avoids falling back upon boundary-drawing and fact-checking as the standards of science.

Reading the work of knowledge formation and circulation as assembling credibility sheds light on the limitations of the 'war model' that Latour had increasingly adopted in distancing himself from Bourdieu. In his 2004 article on critique, Latour engages the discourse of climate scepticism in opposition to the debunking work of critique that has focused on 'prematurely naturalized objectified facts' (Latour, 2004: 227). Climate scepticism faces Latour not with stabilised facts, whose contingency STS scholars had made clear, but with 'artificially maintained controversies' (Latour, 2004). The distinction between credulity and credence can be read implicitly in this analysis. Yet, Latour does not offer any clues as to the distinction between 'real' and 'artificial' controversies, between 'true' facts and 'prematurely stabilised' ones. Rather, Latour shifts the conceptual framework by moving from 'matters of fact' to 'matters of concern' and thus avoids the difficulty of 'artificially maintained controversies'.

In later work, Latour reinserts a clear distinction between science and non-science by focusing on its institution and methodological devices. In *Face à Gaïa,* Latour invokes the objectivity of science not in the epistemological sense of transcendental standards, but as obtained through the 'vast machine' of science (Latour, 2015). More than just the institution of science, it is the instruments of science that are mobilised to support its objectivity. Latour reverts to defending science as an institution working with complex and expensive instruments. This defence of science risks becoming effectively a defence of Big Science, the science that has ownership and can make use of expensive instruments. What about critical social science – or critical security studies, which has been our focus here? Assembling credibility helps us make the move from the 'vast machine of science', which Latour appears to promote to what John Law has recently called the 'little tools of difference' that can create friction and disruption (2017). Assembling credibility attends to the circulation of credit and credentials on the one hand and the contingent enactment of credence and credulity within transepistemic arenas. It is by tracing these moves across boundaries and the associations and disputes that emerge that we can start drawing distinctions between credence and credulity. In making this double move, 'assembling credibility' connects the question of knowledge validation in critical security studies – and the current methodological discussions through which it is enacted – back to the multiple practices, interests, and stakes that create and sustain it.

Such an understanding of validity makes it possible to see that something else is at stake in the discussions about post-truth than relativism or the loss of some imaginary incontestable truth. What is now conveniently organised under the rubric of 'post-truth' are instead complex and messy processes of the transepistemic assembling of knowledge credibility. Assembling credibility thus invites engaging post-truth debates critically by displacing attention from

epistemological standards to the contemporary conditions and disputes over scientific as well as lay knowledge production, changes in practices of justification and validation of knowledge, formations of readiness to believe, and possible implications for lived worlds of changes in what counts as credible knowledge.

One of the implications of the approach we propose here is that analyses of knowledge validation do not have to remain focused on scientific sites and scientific practice as their unit of analysis. They can start 'elsewhere' – for example, with how credibility is disputed in asylum processes, in political debates about greenhouse gasses, or legal trials about war crimes. Another implication is that credence and credulity are not simply contingent upon the outcomes of controversies, disagreements, negotiations, but are also linked to changes in the technologies of knowledge accreditation. For example, social media and the internet have changed the conditions of credibility. By reinforcing what people have already shown an interest in, social media creates bubbles of credulity that demands the reiteration of similar knowledge rather than engaging with challenges to established knowledge, which is the basis of credence in critical knowledge practice. Digital technologies have also changed the distribution of scientific credentials, with 'lay researchers' drawing on digital information and methods to contribute to and produce scientific knowledge (Marres, 2012). This spills over in a broader debate about the democratisation of knowledge production and the societal and political status of expertise (Callon, Lascoumes & Barthe, 2009). Democratisation refers here to connecting scientific and lay knowledge practices and diluting the autonomy of science, thus embedding knowledge claims in more symmetrical relations. Finally, assembling credibility also allows us to evaluate the implications of the neo-liberalisation of scientific knowledge (Fuller, 2006; Mirowski, 2011), which embeds science more strongly in private markets combined with a reduction of the relative importance of public procurement.

Of course, such an approach to post-truth does not fix the problem of credence versus credulity, but it has important implications for how to engage the question of validity as messy practices of assembling credibility. It avoids reducing the politics of knowledge to two warring sides, each fighting for the epistemic destruction of the other. It also avoids reasserting the illusion that epistemological foundations are what ultimately matters, thereby implying that post-truth needs to be dealt with by epistemologically discrediting anything that historicises and socially embeds truth. We hold that the validation of knowledge is a social achievement rather than a victory in a war or an epistemological achievement. Our argument is that this is what critical approaches need to hang on to. Validity as assembling credibility avoids that interrogations of historical and socio-political conditions of knowledge be quashed under epistemological, methodological and political declarations re-asserting a sharp boundary between science and non-science and re-asserting that ultimately there is only one truth, the road to which is science.

Conclusion

This article has asked how to ground critical security studies knowledge and critical knowledge in IR more generally. For us, the question arose from a concern that critical approaches in security studies have been increasingly turning to methods and standards internal to knowledge practice to validate their knowledge claims. Methods were thus approached as tools for

connecting theory and empirical sites, and also for establishing validity. This sparked an interest in the broader question of how critical lineages in security studies with their sensitivity to the social and political entanglement of knowledge and the hierarchies it enacts should engage the issue of validity of knowledge. This question became suddenly more pertinent when the label of 'post-truth' started to significantly drive public and academic debates.

Disputes over the validity of knowledge claims and over the societal and political status of scientific knowledge are of course not new. For example, in the 1960s and 1970s, one of the questions was how developments in information technology would affect knowledge development and validity claims, which is the context in which Lyotard coined 'the postmodern condition' as the end of grand narratives (Lyotard, 1979). These concerns currently continue in debates about big data and how it affects the status of statistical knowledge. Controversies over the historical accuracy of knowledge about the Holocaust in the 1980s and continuing today are another example. Climate change has also become a major reference point for debates about the validity of scientific knowledge claims, the consequences of historicising and deconstructing truth claims, and diluting the boundaries between scientific and other fields of practice.

Rather than turning to a discussion of what standards internal to scholarly practice can be developed for critical knowledge claims, we have developed an understanding of validity as the assembling of credibility. It combines two moves. The first move is to prioritise a sociological conception of credibility in which the epistemic validation of knowledge is subsumed to a broader social practice of circulation, accumulation and distribution of credits and credentials and the enactment of credence and credulity. Validity is understood as a social rather than epistemic accomplishment. The second move is to focus on transepistemic arenas in which relations traversing boundaries between scientific and non-scientific fields are more central for credibility than the maintenance of the autonomy of science. We are not saying that scientific knowledge does not enact conventions of method and epistemological standards; it does. However, the validation of knowledge involves a much broader range of relations that work associatively across multiple epistemic sites. The boundary between science and lay knowledge is not the main structuring device of credibility.

In doing so, we seek to retain a close connection to the lines of thought that focused on deconstructing and sociologising scientific practice and the institution of truth regimes, but revisit them in the light of contemporary disputes about scientific credibility in critical security studies and social sciences more generally. Our argument is that critical security studies need to avoid a reduction of credibility to a choice between either embracing standards aimed at re-asserting the autonomy of scientific knowledge or ending up with credibility wars in which (social) scientific knowledge loses any distinctiveness from other knowledge claims. Assembling credibility places knowledge claims within transepistemic conversations, negotiations and disputes rather than knowledge wars. Post-truth is then not really about truth but about whether one is prepared to support a less hierarchical and more horizontal transversal practice of knowledge creation and circulation. The challenge for retaining a distinctiveness of science is that it needs to be conceptualised socially rather than just epistemologically or methodologically and in relation to a more transversal understanding of knowledge validation that works with a broader set of relations across sites of practice. For some, this may read like exactly the position that seeks to reinforce post-truth, but for us it is a necessary condition for

critically understanding and engaging changes in and disputes of knowledge validation in which issues referred to under the label 'post-truth' play an important role today.

Notes

[1] These have been urgent at distinct moments and sites throughout 20th and 21st century. To mention only two examples: the debates with revisionist readings of the Holocaust in the 1980s and 1990s and the interpretations of climate change in the 21st century. Currently, it is rearing its head on the back of rising populism and political challenges to 'evidence-based' and 'managerial' politics.

[2] It is not primarily grounded in a regulative ideal of scientific or scholarly practice, such as correspondence theory or consensus theory of knowledge, but in practices traversing and questioning the boundary between scientific and lay knowledge. On the difference between correspondence and consensus theories of knowledge, see Friedrichs & Kratochwil (2009).

[3] Disputes are conflicts within which subjects and objects do not necessarily line up in two inimical parties but remain embedded in multiple and dispersed relations.

[4] For discussion of the 'local' in analyses of conflict and (in)security, see for instance (Hönke & Müller, 2012).

[5] Debates about the length of time one needs to spend in the field and numbers of interviews continue to be rife in the social sciences. On the 'time order' of participant observation, see (Falzon, 2016). Interestingly, ethnographic work does not usually quantify interviews or numbers of participants (e.g. Tsing, 2005).

[6] Leander's reading of 'strong objectivity' could be read as a practice of assembling credibility for critical security studies, as the next section will explain.

[7] For recent reformulations of curiosity as method see Weber (2015), Huysmans (2016) and Guittet (2016).

[8] The new approaches were represented as remaining engrossed in meta-theory and abstract discussions, thus not having much to contribute to the understanding of the reality of international politics. In other words, they were criticised for having a serious empirical deficit. In addition, they were questioned for not having proper methods and stood implicitly accused of lack of rigour, which also opens towards a demand for standards for proper research design.

[9] In Gieryn's analysis this boundary work is significant in various contexts, including protecting scientific autonomy in light of public or private funding and retaining scientific authority in relation to rivals such as religious truths or engineering (Gieryn, 1999).

[10] For a debate on the role of women in the community of gentlemen scholars, see (Sargent, 2004).

[11] On the politics and sociology of Big Data see the journal *Big Data & Society* (http://bds.sagepub.com) and the related blog at http://bigdatasoc.blogspot.co.uk.

[12] Interestingly, we can read Dauphinee's shredding of the credibility of her previous work on the basis of narrative fragments of a witness and re-establishing credibility as developing an auto-biographical counter-narrative to her analytical writing.

[13] See also http://www.forensicarchitecture.org.

[14] http://satellites.marchforscience.com.

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